

Space-saving Plug-in Signal Conditioners F-UNIT

PT TRANSMITTER

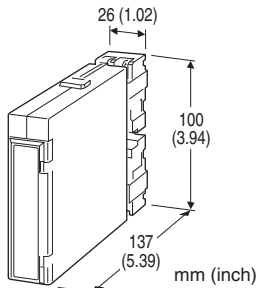
(Average sensing, RMS calibrated)

Functions & Features

- Converting an alternating voltage from a potential (voltage) transformer into a standard process signal
- Minimum ripple
- Average sensing
- High-density mounting

Typical Applications

- Centralized monitoring and control of power line and power supply voltage measured at switch boards
- Monitoring abnormal voltage drops for detecting overload



MODEL: FPA-[1][2]-[3][4]

ORDERING INFORMATION

- Code number: FPA-[1][2]-[3][4]
- Specify a code from below for each of [1] through [4].
(e.g. FPA-1A-P/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q
(e.g. /C01/S01)

[1] INPUT (sine wave)

Voltage

- 1: 0 - 110 V AC
- 5: 0 - 150 V AC

[2] OUTPUT

Current

- A: 4 - 20 mA DC (Load resistance 750 Ω max.)
- B: 2 - 10 mA DC (Load resistance 1500 Ω max.)
- C: 1 - 5 mA DC (Load resistance 3000 Ω max.)
- D: 0 - 20 mA DC (Load resistance 750 Ω max.)
- E: 0 - 16 mA DC (Load resistance 900 Ω max.)
- F: 0 - 10 mA DC (Load resistance 1500 Ω max.)
- G: 0 - 1 mA DC (Load resistance 15 kΩ max.)

Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1: 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2: 0 - 100 mV DC (Load resistance 100 kΩ min.)
- 3: 0 - 1 V DC (Load resistance 1000 Ω min.)
- 4: 0 - 10 V DC (Load resistance 10 kΩ min.)
- 5: 0 - 5 V DC (Load resistance 5000 Ω min.)
- 6: 1 - 5 V DC (Load resistance 5000 Ω min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] POWER INPUT

AC Power

- K: 85 - 132 V AC
(Operational voltage range 85 - 132 V, 47 - 66 Hz)
- L: 170 - 264 V AC
(Operational voltage range 170 - 264 V, 47 - 66 Hz)

DC Power

- R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
- P: 110 V DC
(Operational voltage range 85 - 150 V, ripple 10 %p-p max.)

[4] OPTIONS

- blank: none
- /Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to M-System's web site.)

- /C01: Silicone coating
- /C02: Polyurethane coating
- /C03: Rubber coating

TERMINAL SCREW MATERIAL

- /S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3.5 screw terminals (torque 0.8 N·m)

Screw terminal: Nickel-plated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output to power

Input waveform

Average sensing: Sine wave

Overrange output: 0 to 120 % at 1 - 5 V

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

Frequency: 50 or 60 Hz

Input burden: 0.5 VA max.

Overload capacity: 200 % of rating for 1 minute, 120 % continuous

Operational range: 0 - 120 % of rating

OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC

Minimum span: 1 mA

Offset: Max. 1.5 times span

Load resistance: Output drive 15 V max.

■ **DC Voltage:** 0 - 12 V DC

Minimum span: 5 mV

Offset: Max. 1.5 times span

Load resistance: Output drive 1 mA max.; at ≥ 0.5 V

INSTALLATION

Power input

• **AC:** Approx. 4.5 VA

• **DC:** 24 V approx. 70 mA

110 V approx. 20 mA

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Surface or DIN rail; Standard Rack Mounting

Frame BX-16H available

Weight: 200 g (0.44 lb)

PERFORMANCE in percentage of span

Accuracy: ± 0.4 %

Temp. coefficient: ± 0.02 %/°C (± 0.01 %/°F)

Response time: ≤ 0.5 sec. (0 - 90 %)

Ripple: 0.5 %p-p max. (100/120 Hz)

Line voltage effect: ± 0.1 % over voltage range

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength

Power input code R:

2000 V AC @1 minute (input to output)

2000 V AC @1 minute (input or output or power to ground)

500 V AC @1 minute (I/O to power)

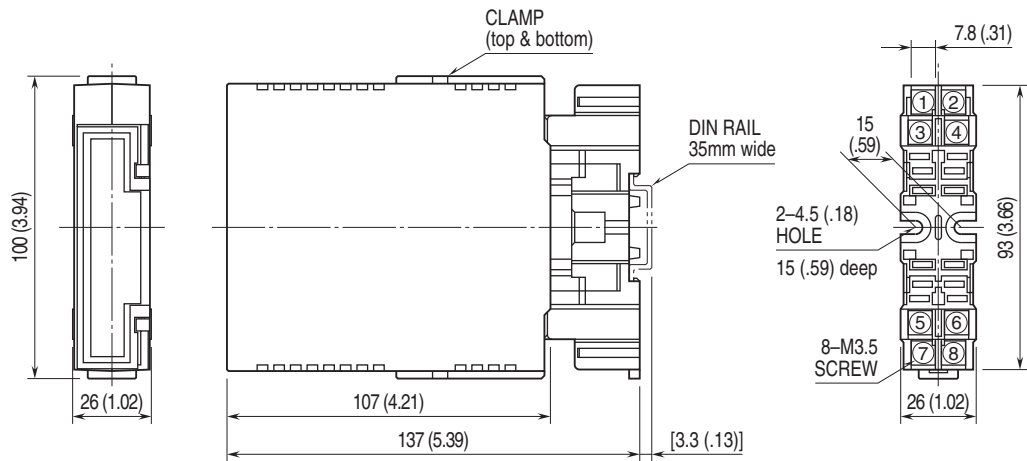
Power input code K, L, P:

2000 V AC @1 minute (input to output)

2000 V AC @1 minute (input or output or power to ground)

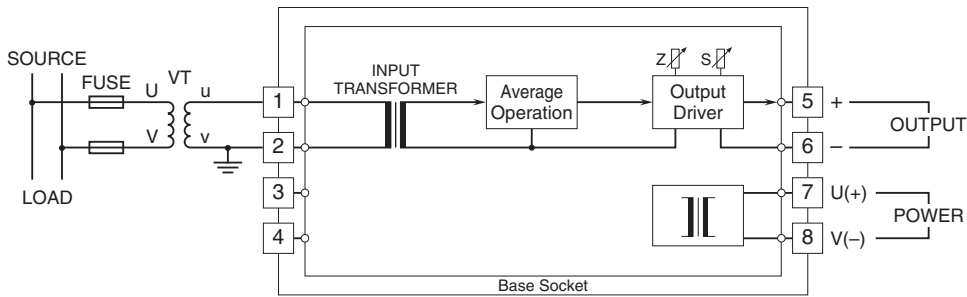
1500 V AC @1 minute (I/O to power)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



•When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.